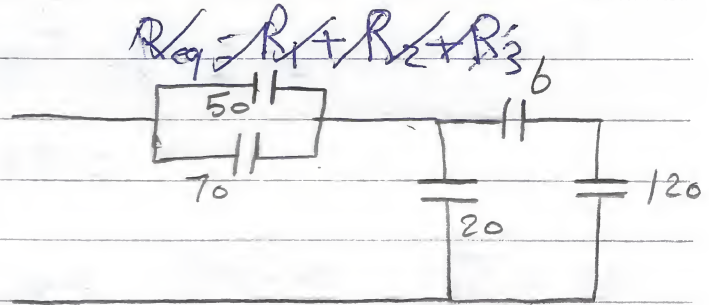
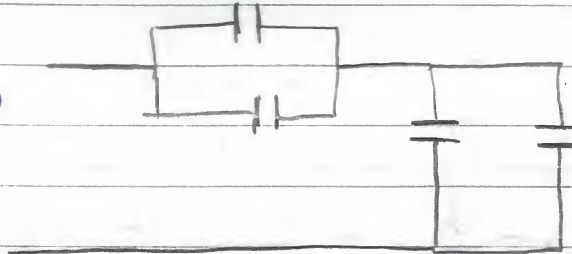


Section 2

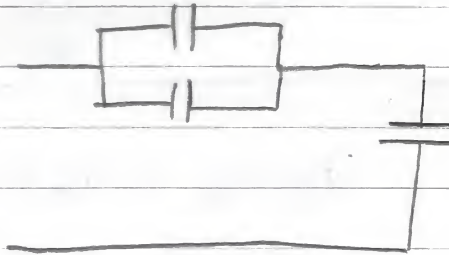
$$\frac{6 \times 120}{6 + 120} = 40 \mu f$$



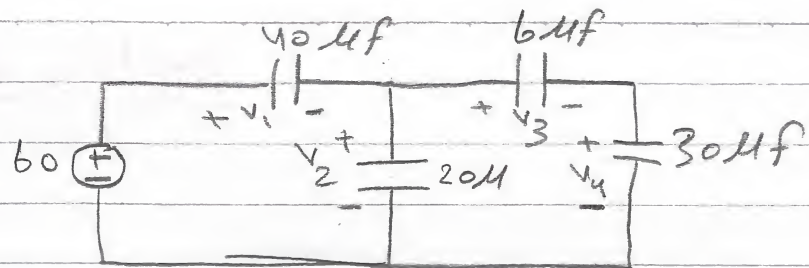
$$20 + 40 = 60 \mu f$$



$$C_{eq} = \frac{120 \times 60}{120 + 60} = 40 \mu f$$



$$C_{eq} = 20 \mu f$$



$$\text{total charge } (Q) = C_{eq} V$$

$$= 20 \times 10^{-6} \times 60 = 1.2 \text{ mC}$$

$$= 0.0012 \text{ C}$$

$$V_1 = \frac{Q}{C_1} = \frac{0.0012}{40 \times 10^{-6}} = 30 \text{ V}$$

$$V_2 = \frac{Q}{C_2} = \frac{0.0012}{20 \times 10^{-6}} = 15 \text{ V}$$

$$V_3 = \frac{Q}{C_3} = \frac{0.0012}{60 \times 10^{-6}} = 30 \text{ V}$$

$$V_4 = 20$$

$$V_3 C_3 = V_4 C_4$$

$$V_3 \times 60 = V_4 \times 30$$

$$\frac{V_3}{V_4} = \frac{30}{60} = \frac{1}{2}$$

$$V_4 = 2 V_3$$

$$V_3 + V_4 = V_2$$

$$V_3 + V_4 = 30 \rightarrow \textcircled{1}$$

$$V_3 + 2V_3 = 30$$

$$V_3 = 10 \rightarrow \textcircled{2}$$

Sub(2) in (1)

$$V_3 + V_4 = 30 \Rightarrow 10 + V_4 = 30 \Rightarrow V_4 = 20 \text{ V}$$